The Infantry Rifle Squad: Size Is Not the Only Problem

A Monograph
by

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The concern over the infantry squad's effectiveness has focused on its size. A review of the historical data suggests that the squad's organization is the critical facet in the effectiveness of an infantry squad. As a result, the author suggests the current squad can be made more effective if its organization is changed to reflect the lessons of three wars and decades of peacetime testing. Specifically, the squad should not be organized around fire teams, nor around more than one light machinegun and grenade launcher. Concurrently, the squad should be used as either a base of fire or maneuver element; the squad should not be expected to fire and maneuver simultaneously. Keywords:

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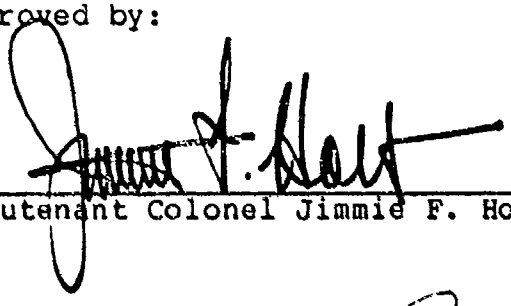

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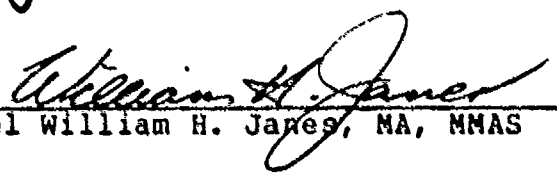

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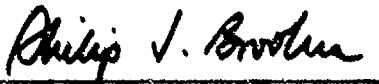

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ABSTRACT

THE US INFANTRY SQUAD: THE REAL PROBLEM IS MORE THAN ITS SIZE by Major Paul E. Melody, USA, 58 pages.

The concern over the infantry squad's effectiveness in the recent past has focused almost exclusively on its size. Critics argue that the current US Army infantry squads, both light and mechanized, are too small to accomplish their mission (particularly the mechanized squad). While it may be true that the squads' current nine man strength can not sustain as much attrition as the former eleven man squad, size is not the key issue in the squad's effectiveness.

Historical analysis of the infantry squad since World War II would suggest that the US Army's current squad's primary shortcoming lies in its organization rather than its size. As such, it is possible to make the current squads more effective without increasing its size. This fact is significant since present personnel limitations at the Department of the Army level preclude increasing the squad's size.

Based on data from both combat experience and peacetime testing, the author suggests that eliminating one of the squad's two M249 Squad Automatic Weapons, and M203 Grenade Launchers, would improve the nine man squad's overall effectiveness.

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I. INTRODUCTION

Since the US Army adopted the nine man infantry squad for both its mechanized and light infantry battalions in the 1980s, critics have argued that the infantry squad is incapable of performing its mission. Much of this criticism has focused on the mechanized infantry squad. Infantry commanders of all ranks have stated that the mechanized squad's dismount element is too small. Its six man size can not absorb likely combat attrition and remain combat effective. One observer, MG (ret.) Richard A. Scholtes has even proposed removing the turret from two of the mechanized platoon's four M2 Infantry Fighting Vehicles in order to increase the number of riflemen.[1]

Due to the fact that light infantry does not have to provide for mounted and dismounted combat as does mechanized infantry, the nine man light infantry squad - although two smaller than the previous eleven man squad - has not received as much attention or criticism. However, infantry commanders are concerned over the ability of the smaller light infantry squad to absorb casualties and remain combat effective. As one light infantry commander expressed it, the loss of even one soldier in the squad puts an ever increasing physical burden on those that remain.[2] Starting out with two fewer soldiers than before only makes the infantry squad's task that much more difficult. It appears that within the American infantry community, the

concern over the infantry squad's reduced size has focused on numbers more than any other factor.[3]

Although numbers are important, size alone is not the only factor to consider when discussing the infantry squad's effectiveness. In fact, an analysis of both combat lessons learned and peacetime testing since World War II suggests the US Army's current infantry squad's fundamental shortcoming is its organization. Given this evidence, the nine man light infantry squad, and the mechanized infantry's six man dismount element, should both be reorganized to maximize current weapons technology, and tactically required to perform single function missions to reflect combat reality.

II. HISTORICAL BACKGROUND

Since the American Civil War, infantry in the defense has gained a strength not previously witnessed in infantry combat. Initially this came about because of the increased accuracy, range, and rate of fire of the rifled musket. By 1914, the machine gun had replaced the rifle as the dominate infantry weapon. However, these early machine guns were very heavy and consequently not easily moved. As a result, a stationary, protected defender was more effective than an exposed, moving attacker. The consequences were huge casualties suffered by attacking infantry in the early years of World War I (WWI).[4]

By 1918, however, the situation had changed. After

nearly three years of trial and error in attempting to break the deadlock of the Western Front, the Germans achieved a tactical breakthrough in March 1918. The bulk of their success came from changing their existing infantry organization and tactics to maximize the effect of their new light machine gun (LMG) and automatic rifle.[5]

The LMG changed infantry organization and offensive tactics. Rather than massed rifle fire, the LMG's fire paved the way for the infantry's final assault. Small groups of infantrymen organized around and fighting in relation to the section's LMG could now successfully attack. This new tactical concept, and the accompanying organization, was the essence of the German's tactical success in 1918. The squad was no longer merely an administrative unit used to distribute rations, or conveniently change platoon formations. With the addition of a LMG, the squad had become a tactical element.[6]

As a result of their WWI tactical experience all Western armies in World War II (WWII) organized their infantry squads and platoons around either a LMG or automatic weapon.[7] The German Army initially fielded the highly effective MG 34 LMG (and later the superb MG 42) as a squad machine gun. Similarly, the British Army developed the reliable Bren LMG as a section weapon. These LMGs gave the German and British infantry an effective sustained fire capability to support infantry combat, particularly the

attack.[9]

The American Army, however, could not field a reliable squad LMG.[9] As a substitute, the American infantry used the Browning Automatic Rifle (BAR) to support its infantry squad. Throughout WWII, the American infantry came to depend on the added firepower of the BAR. In fact, by 1944, the Army authorized a one hundred percent increase in the infantry company's BARs.[10] In spite of the fact that the American Army did not field a genuine squad LMG, it did accept the premise that the infantry squad's effectiveness depended, in part, on the firepower provided by a reliable squad light machine gun.

POST WORLD WAR II ERA

In 1946, American combat infantry leaders gathered at the Infantry School, at Fort Benning Georgia, to assess the lessons learned in WWII concerning American infantry. Tactics, doctrine, weapons, leadership, clothing, personnel policies, organization, and training were all discussed and evaluated at this special Infantry Conference. The conclusions and recommendations reached at the Conference formed the basis for future US Army infantry organizations, weapons, and doctrine well into the 1950s. More significantly though, the observations the Conference members made concerning the infantry squad have been corroborated by subsequent combat experience in two wars, and decades of

peacetime testing.

Generally, the Conference attendees felt that WWII combat had proven the correctness of US infantry tactical doctrine and organization. A few areas, however, were recognized as deficient and in need of immediate correction. These deficiencies primarily concerned the infantry squad and platoon, as well as the infantry's small arms.

Based on their collective WWII combat experience, the Conference members reached specific conclusions regarding an effective infantry squad. These conclusions would ultimately result in a specific recommendation to the Infantry School to change the WWII infantry squad's organization and tactical employment. In particular, four factors heavily influenced their conclusions: the difficulty of squad command and control, the lingering effects of combat attrition on squad size, the need for a squad light machine gun, and, as a result of all these, the limitations of squad tactics.

The Conference members discussed at length the difficulties of squad command and control. They agreed that combat had clearly indicated that an average squad leader could not control the WWII twelve man squad - even with an assistant squad leader and internal team organization. Based on their own observations, the majority of combat leaders felt that the maximum number of men in the squad should be nine.[11]

The second factor that influenced the Conference

members in regards to the infantry squad concerned attrition. The conferees noted that in combat infantry squads routinely operated at 20% less their authorized strength. Any future infantry squad that was small enough for the squad leader to control had to be large enough to account for the effects of battlefield attrition. Again, the members agreed that a nine man squad seemed to be most appropriate. The nine man squad - a squad leader and eight men - would be large enough to absorb combat attrition, yet be small enough for a man to command and control.[12]

The third critical factor concerning the infantry squad was firepower. As with the other three points, the Conference members based this conclusion on their combat experience. They agreed that WWII had demonstrated that the infantry squad needed an organic light machine gun, rather than an automatic rifle. The conferees felt that only a squad LMG could provide the squad with the requisite fire suppression to accomplish its mission in attack or defense. Furthermore, the members felt that the US standard rifle, the M1 'Garand', although reliable, was too heavy and too limited in firepower, particularly during the assault. Likewise, the BAR was also too heavy and too limited in firepower.[13]

Like the majority of US infantrymen, the members were particularly impressed by the performance of the German Army's squad LMG, the MG42, and the SG44 'assault' rifle.

The MG42 had a quick barrel change capability which allowed it to provide sustained fire support. Additionally, the MG42 weighed only twenty four pounds, compared to the US LMG, the M1919A6, which weighed thirty three pounds and had no quick barrel change capability. The assault rifle, as the name implies, gave the German infantryman additional firepower during the assault. The German SG44 had the capability to fire in both semiautomatic and full automatic modes. Additionally, it had the added benefit of a twenty round magazine. This prevented the constant reloading as with the US Army's eight round M1 rifle. As a result of these weapons' performance against US troops, the Conference members felt an American version would be ideal for the infantry squad of the future.[14]

The fourth factor, which concerned squad tactics, resulted from the preceding three. Again, the Conference members felt that combat experience had demonstrated an attacking infantry squad could either act as a base of fire element or as a maneuver element. The squad could not do both simultaneously. The US Army's WWII doctrine that a squad could establish a separate fire and maneuver element was proven infeasible. First, it proved to be beyond the capability of the average squad leader to command and control. Second, to do both fire and maneuver required a large squad: one part had to act as the base of fire and the other to act as the maneuver element. The large size

precluded effective command and control. Moreover, due to attrition, the squad's combat strength was rarely sufficient to provide for both.

As a result of these observations, the Conference attendees recommended that the US Army adopt a smaller nine man infantry squad with two NCOs (a squad leader and an assistant squad leader). The recommended squad was organized around an organic squad LMG (based on the MG42 design) and five riflemen. Tactically the squad would either act as a base of fire or a maneuver element. Since the squad was not expected to fire and maneuver, the WWII subordinate squad teams - Able, Baker, Charlie - were no longer necessary and should be abandoned. Based on their WWII observations, the Conference members felt the nine man squad, when organized around a LMG, was large enough to sustain casualties yet was small enough for the squad leader to command and control effectively.[15]

The Army's leadership accepted all of the Conference's recommendations. All were implemented by 1947- with the exception of the recommended weapons.[16] The Army was unable to field a replacement for the M1 rifle and the BAR until the late 1950s.[17] As a result, the infantry squad in 1947 was equipped with weapons generally recognized as inadequate. Most importantly, the squad lacked the quintessential LMG.[18]

In summary, the 1946 Infantry Conference at Fort

Benning significantly changed the American Army's infantry organization and tactics. Many of these changes remained in effect until the 1950s. In regards to the infantry squad's organization, the 1946 Infantry Conference identified four essential factors which would prove timeless. First, in terms of command and control, a squad leader has difficulty in controlling an element larger than nine men, even when assisted by another NCO. Second, because of attrition, the infantry squad in combat will operate routinely at less than its authorized strength. Consequently, a squad must be small enough for the squad leader to control, yet large enough to absorb casualties. The 1946 Conferees felt a nine man squad was the optimum size to meet this need. Third, despite peacetime expectations, the nature of infantry combat precludes the effective use of subordinate teams. As a result, a squad can be expected to either fire or maneuver, but it can not do both. Fourth, to effectively fire or maneuver, the squad needs the suppressive firepower of an organic LMG. Rifle fire alone is inadequate.[18]

THE KOREAN WAR

Despite tactical failures against both the North Korean and Chinese Communist armies, the US Army did not feel it had learned any new lessons from combat in Korea. Rather, the primary lesson appeared to be that far too many

infantrymen failed to apply existing doctrine. Consequently, the US Army made only one change in squad organization as a result of the fighting in Korea.

The organizational change that effected the infantry squad during the Korean War predictably came about as a result of the squad's lack of firepower. Specifically, because the BAR lacked the firepower of a LMG, the Army authorized an increase in the number of BARs in the infantry squads. The additional BAR was intended to give the infantry squad the approximate suppressive fire of an effective, organic squad LMG.[20]

Combat in Korea seemed to confirm the observations made about the infantry squad at the Infantry Conference in 1946. The post-WWII nine man infantry squad, organized around the BAR, performed well in combat in Korea. As SLA Marshall observed:

> '...the BAR, even more than the machine gun [the M1919A6], provides the base around which the action of other infantry weapons builds up and the force [the squad and platoon] expresses itself unitedly....The BAR [on account of its light weight in comparison to the M1919A6] is the pivotal weapon in this eddying of the tactical situation'.[21]

In regards to command and control and attrition, the nine man squad also corroborated the 1946 Infantry Conference's conclusions about the infantry squad's size and tactical employment. Nine men appeared to be the right size. It was neither too large to control nor too small to

absorb casualties. In short, the Korean combat experience seemed to vindicate the Conference recommendations concerning the infantry squad size, organization, and tactical employment.[22]

POST-KOREAN WAR, PRE-VIETNAM ERA

Following the Korean War, the US Army attempted to come to grips with the specter of potential tactical nuclear combat. As a result, change was in the air. "Old" ideas (i.e. pre-Nagasaki/Hiroshima/Atomic era) were challenged.[23] From 1953 until 1956, the US Army conducted no fewer than four major studies and tests to determine the "best" infantry squad organization. As will be seen, despite the lack of proof that the Army needed to change the nine man squad, the Army adopted an eleven man squad organized with two "fire teams". With this change in infantry squads, the US Army in essence disregarded the 1946 Infantry Conference's observations concerning the essential nature of the infantry squad's organization.

Significantly, each of the studies tended to support the 1946 Infantry Conference's conclusions concerning the infantry squad's essential organization. Specifically, each test noted that squad command and control requirements limited the squad's optimum size to less than ten men. Additionally, each test pointed out that combat attrition mandated a squad larger than five or six men. Moreover, each

test recounted the need for the squad to have sufficient firepower to act as base of fire or to support the squad's assault. This firepower requirement recognized the need for a suitable squad automatic weapon (until the US could field a suitable LMG, this would mean at least one BAR). Finally, each test noted the difficulty - almost the impossibility - of squad fire and maneuver. Considering these points, the Army's decision to adopt the eleven man squad seems irrational. As such, it is necessary to examine the genesis of the decision to adopt an eleven man, two fire team based squad.

The first inkling of a US Army infantry squad organized around subordinate 'fire teams' occurred during the Korean War.[24] This came in response to a Department of the Army request for SLA Marshall, the noted WWII historian, to observe American infantry operations in the Korean War. SLA Marshall's report, Commentary on Infantry Operations and Weapons Usage In Korea: Winter 1950-1951, concluded that the Army's infantry squad was not as well organized as the Marine Corps' larger, three fire team based squad. As a consequence, Marshall felt the Army squad should be reorganized so it too could fire and maneuver. One can only suspect that Marshall either did not agree with, or appreciate, the 1946 Infantry Conference's recommendation that the Army's infantry squads be required (or expected) to conduct fire or maneuver. In any event, Marshall felt obliged to

suggest the Army change its squad organization and infantry doctrine.[25]

Under Marshall's proposal, the squad would consist of two small fire teams with each team having one junior NCO, one BAR, and three riflemen. The squad leader would only lead two element leaders rather than eight soldiers, namely, the two fire team leaders. The fire team leaders, in turn, would lead four people, but only in a 'follow me - do as I do ' method.[26]

In Marshall's mind, the fire team concept allowed for two tactical improvements. First, it allowed for more responsive fire and maneuver within the platoon. Instead of only the platoon leader deciding when to initiate fire and maneuver, the squad leader would be able to initiate it if he thought it necessary.

Second, Marshall felt the fire team organization would insure more riflemen fired their rifles. This latter point was a personal fixation of Marshall's who believed that in WWII only a small percentage of riflemen ever fired their weapons. Part of his recommendation to correct this perceived WWII deficiency was to increase the number of leaders in the squad. As a result, any measure that could increase the amount of <u>rifle</u> fire, to include changing the squad's organization and tactical doctrine, was acceptable.[27]

Marshall did not provide documented support for his

recommendation to change the infantry squad's organization. In fact, Marshall's own report supported the validity of the 1946 Infantry Conference's squad organization and tactical employment. First, Marshall made the observation [quoted earlier, in the section concerning the Korean War] that the BAR became the squad's unifying agent in Korea. Furthermore, Marshall noted that the squad leader in Korea seemed much more effective than had squad leaders in WWII. As a consequence, Marshall emphasized the point that the fighting in Korea produced very effective squad combat - a condition he did not observe during WWII. Marshall felt that besides the strong NCOs, the terrain in Korea helped bring this about. Marshall did not explain specifically why the terrain helped to bring this about, other than the fact that it narrowed a company's frontage. Somehow from these observations, Marshall concluded that a squad could be made more effective if it were organized around, 'two wings, each working under its own leader'. [20]

Apparently it never occurred to Marshall that the reason the NCOs seemed more effective in the Korean War than they had appeared during WWII might have been due to the organizational and tactical changes the Army had made in the infantry squad since WWII. None of Marshall's observations suggested the Army's nine man squad, organized and led to execute fire or maneuver, was unsatisfactory. Based on his own praise of the squad's performance, one is

hard pressed to see why the Army needed to change its squad organization. In short, nothing in Marshall's report disproved the observations the 1946 Infantry Conference made about the infantry squad's size, organization, or tactics.[29]

Additionally, when scrutinized, it is hard to see the difference between Marshall's proposed fire teams and miniature squads. An argument certainly could be made that considering their size, they were more susceptible to attrition, and therefore less useful, than the larger nine man squad. Seen in this light, his proposed squad idea seems to have been a return to the old rifle 'section' organization - an intermediate level between the platoon leader and the squad. Marshall's fondness for such an organization might have been due to his early acquaintance with the section organization during his WWI service. (The Army abandoned the section following WWI in order to allow the platoon leader to more closely control the rifle squads.)[30]

Given Marshall's fixation upon increasing the squad's rifle fire, it seems he failed to appreciate the historical impact that an effective LMG had made on infantry combat, particularly at the squad level. Simply put, three or four riflemen could not equal the efficiency and effectiveness of a LMG's firepower. Futhermore, one can only assume Marshall did not understand the essence of the German Army's infantry tactical success in both world wars.

The other fact that helped influence the Army to abandon the nine man squad was MG JC Fry's battle drill concept. MG Fry, while the commander of the Second Infantry Division in Korea in 1952, during relatively static combat conditions (characteristic of the Korean War at the time), instituted his own version of battle drill. Fry had previously used battle drill with apparent success in Italy, when he was a WWII regimental commander.[31]

Fry's version of battle drill employed an infantry squad organized with two teams. One team acted as a base of fire while the other maneuvered. Fry claimed that battle drill made the squad and the platoon more effective. This was because it prevented so-called 'pin downers'- soldiers who could not move when under enemy fire.[32] Battle drill was a topic discussed in detail during the 1946 Infantry Conference. The Conference members nearly unanimously concluded that it was not a good idea since it stereotyped one's tactics. As a result, the conferees recommended the US Army not adopt the concept.[33]

By the middle of 1953, however, the concept of battle drill received a lot of publicity in an unofficial publication, Combat Forces Journal.[34] It gained in popularity following the Korean War when Fry published a book entitled, Assault Battle Drill.[35] As one can see, the battle drill concept complemented Marshall's recommendation to reorganize the infantry squad with fire teams and return

squad fire and maneuver to the Army's doctrine. Together, Marshall and Fry seem to have influenced the Army's eventual adoption of the eleven man fire team based squad.

Despite the support battle drill gave to the concept of a fire team organized 'squad', nothing in the tests conducted after the Korean War conclusively proved the validity of such an organization. In fact, the Army conducted four tests to examine the 'best' squad organization. In 1953 the XVIII Airborne Corps conducted the first squad test, Operation FALCON, at Fort Bragg, North Carolina. At the direction of the Chief of Army Field Forces, and observed by representatives of the United States Army Infantry School (USAIS), the test was designed to determine the feasibility of three issues: the ability of one leader to control ten men (i.e. an eleven man squad), the simultaneous employment of two BARs, and squad fire and maneuver.[*]

The XVIII Airborne Corps report concluded that all three propositions were feasible. However, the report contained two significant caveats to its conclusion. First, the ability of a squad to conduct fire and maneuver depended upon maintaining sufficient squad strength. Without enough men the squad could not provide both a base of fire and a maneuver element. Unfortunately, the conclusion did not say what number was minimally required to support fire and maneuver. The report merely stated that if the squad

suffered casualties, the squad could not execute both fire and maneuver. Second, in order to maintain infantry squads with the minimal numbers of personnel necessary to support squad fire and maneuver, the entire division had to make a deliberate and concerted replacement effort, apparently at the expense of maintaining other type units.[37]

The USAIS' representatives disagreed with the test's conclusions. Having observed the test, USAIS representatives stated that the test did not prove that an NCO could control a ten man squad, nor conduct squad fire and maneuver. As a result, the USAIS Commandant recommended that the Army retain the nine man squad rather than adopting the eleven man fire team organized squad. In short, Operation FALCON did nothing to disprove the 1946 Infantry Conference's observations and conclusions regarding the squad's essential organization.[38]

In 1955, the Third Infantry Division conducted Exercise FOLLOW ME. The exercise tested the feasibility of a smaller seven man squad as a means to ease the difficulty of squad command and control. The test squad consisted of a squad leader, an assistant squad leader, one BAR, and four riflemen.[39]

Exercise FOLLOW ME produced two observations. First, the seven man squad, with only one BAR, lacked the firepower necessary to affect a successful squad attack or defense. Moreover, the assistant squad leader could not help

control the squad due to the fact that he had to fire his individual rifle to augment the squad's deficient fire power. Second, having only seven men, the squad lacked the personnel to absorb casualties and remain effective. As a result, the report recommended that the Army should adopt a ten man squad organized with two BARs. It did not recommend the use of fire teams. In short, Exercise FOLLOW ME confirmed the 1946 Conference's conclusions regarding the infantry squad's organization.[40]

Later in 1955 the Third Infantry Division conducted yet another test, Exercise SAGEBRUSH. Although charged to evaluate the Army's nine man squad, the Third Infantry Division Commander's exercise report merely stated that the nine man squad was too small to execute squad fire and maneuver - a fact that was already known. His only recommendation suggested the Army return to the WWII twelve man squad so that the infantry squad would be large enough to form three fire teams. In sum, Exercise SAGEBRUSH failed to support the fire team based squad proposed by Marshall or refute the 1946 Conference's conclusions regarding the infantry squad's size, organization, or tactical employment.[41]

Finally, in 1956 the US Army conducted a more 'scientific'[42] evaluation of the infantry squad. Under the auspices of the Continental Army Command's Combat Operations Research Group, the Psychological Research Associates pre-

pared, A Study of the Infantry Rifle Squad TOE (ASIRS).[43] The ASIRS was designed to determine the relationships between the components of an infantry squad, specifically, its weapons, organization, and size. Moreover, it sought to determine how changes in the squad's structure, size, weapons, and leadership would affect squad performance. The testers hoped ASIRS could provide the Army's leadership with information useful to the fielding of the most effective squad possible with existing technology.[44]

As a measure of a squad's effectiveness, ASIRS compared a variety of squad organizations in terms of fire capability, control, attrition effects, and maneuverability. Using these factors, the ASIRS compared six variations in squad size (squads ranged in size from four to eleven men); weapons (the test varied the number of BARs as a percentage of weapons in each squad, ranging from as few as zero to as many as three); leadership (each squad only had one leader, no assistants were used except in the eleven man fire team squad; this was to determine the extent of one man's command and control); and structure (all except the eleven man squad were organized with a base of fire team, the BAR - if the squad had a BAR assigned - and only one leader). The types of missions used in the test were limited to attacks and defenses.[45]

The ASIRS report addressed each of the components of what the testers felt constituted an effective squad: fire

capability, control, attrition effects, and maneuverability. In terms of fire capability, ASIRS concluded that a squad's volume and accuracy of fire peaked when fifty percent of the members were equipped with BARs. When so equipped, however, the squad could not perform its close combat functions after the assault (such as clearing trenches or houses). In essence, increasing the squad's firepower (by increasing the numbers of fire support weapons) at the expense of riflemen eventually made the squad ineffective. As a result, ASIRS testers concluded that a squad's BARs should not exceed thirty percent of its squad's actual strength. Given the BAR's inability to provide sustained fire (a function of its twenty round magazine), this mandated a minimum of two BARs: one to continue firing while the other reloaded. In short, it was essential to keep the number of fire support systems to the absolute minimum necessary - more was not better![46]

In terms of squad control, ASIRS results could not fix an absolute optimum leader to led ratio. The ratio varied with the terrain, enemy situation, mission (the attack was more difficult than the defense), and the quality of the NCO concerned (i.e. his experience, training). Given all of this, however, ASIRS testers felt the 'best' leader to led ratio was probably 1 to 5. But, it was possible to exceed this ratio and effectively have one man lead seven men, especially in more open terrain in broad daylight.[47]

In terms of attrition, ASIRS quantified the rather obvious conclusion that squads of seven men and less could not survive as long as larger squads. Unfortunately, it was unable to provide any new data on the effects of attrition. As a result, it was felt that a "basic brick" squad of five men, while the easiest to control, at least in terms of leader to led, was also the least desirable in combat.

With regard to squad maneuverability, the ASIRS report catalogues simply that the differences between the various squads reflected the varying number of BARs assigned to each squad. Squad size did not seem to affect the squad's inherent ability to maneuver. For example, four and six man squads with BARs were no more maneuverable than an eight man squad with only one or two BARs. Although, if the eight man squad had three BARs, it was appreciably less maneuverable than the squads with two or fewer BARs. Regarding the squad's firepower, ASIRS data showed it was better to keep the fire support element as small as possible. In short, more fire support systems was not necessarily better.[40]

In their more general conclusions, ASIRS controllers commented on the squad's structure, definition, and tactical employment. The ASIRS report supported the US Army's accepted definition of a squad, used since the 1946 Infantry Conference, as the smallest element led by a single man. As such, any squad structure which employed subordi-

nate leaders and organizations - such as the eleven man squad with two fire teams, proposed by SLA Marshall - was, strictly speaking, an orgnization of two squads.

Consequently, ASIRS testers concluded and stressed that the Army's nine man squad, with an assistant to help control the squad, was effective. The testers also noted that the proposed eleven man 'squad' with two fire teams (two miniature squads) was also effective. Aside from the obvious differences in structure, the primary distinction between the fire team based eleven man 'squad' and the nine man squad concerned its tactical employment. Simply put, the nine man squad could not execute fire and maneuver, but the eleven man fire team based squad could. This made sense when one recognizes that the fire team 'squad' actually used each fire team as a small squad - one maneuvered while one provided a base of fire.[4]

As a result of the distinction between the two squad organizations, ASIRS testers stated that the Army's leadership had to determine whether the squad actually needed to execute fire and maneuver. In choosing this path, ASIRS testers suggested the Army was also choosing to disregard the conclusions the 1946 Infantry Conference made regarding the infantry squad's organization and tactical role. If they disregarded the 1946 Conference conclusions, the Army's leadership could decide that a squad leader could control a larger 'squad' - provided, of course, that the

squad contained subordinate fire teams. Without maintaining the fire team structure, and the need for squad fire and maneuver, the eleven man squad was not superior to the nine man squad.[30]

Shortly after the ASIRS was completed, the Army adopted the eleven man fire team based squad. As such, it would seem the ASIRS had little effect on the Army's leadership's decision to drop the nine man squad. Concurrently, the USAIS most enthusiastically adopted MG Fry's version of battle drill as official tactical doctrine. Consequently, the emphasis on the need for a squad organic LMG, as well as the other points outlined in the 1946 Conference regarding the infantry squad, were cast aside by a preference for a fire team based squad and battle drill.[31]

In 1961, the Army once again evaluated its infantry squads and platoons with the Optimum Composition of the Rifle Squad and Platoon (OCRSP) test. The Army's Combat Development Experimentation Command (CDEC) designed the OCRSP test to determine the best squad and platoon organization for capitalizing on the Army's new family of infantry weapons: the M14 rifle, the M60 light machine gun, and the M79 grenade launcher. Specifically, CDEC expected the OCRSP test to determine the best size, structure and organization of the Army's future infantry squad and platoon. As with the ASIRS in 1956, the OCRSP provided the Army many useful observations about infantry squad organizations, weapons,

and tactics. Moreover, OCRSP results corroborated many of ASIRS's observations. Additionally, significant portions of the OCRSP results supported the 1946 Infantry Conference's conclusions regarding the infantry squad's organization and size. Although only using a small portion of the entire test's results, the testers recommended the Army retain the eleven man fire team based squad. But they did so with some carefully stated caveats.[52]

The OCRSP was more comphrensive than any earlier test regarding the infantry's basic organizations. It examined both the infantry squad and platoon in detail. The test examined three general types of platoon organizations by varying types and numbers of squad organizations. Some platoons had three squads while others had four. Some platoons had nine man squads while others had eleven. Additionally, some platoons were organized with a separate weapons squad which contained all of the platoon's LMGs.[53]

The squad organizations tested were of two types. They were either fire team based, or based around one squad leader with an assistant squad leader (the Korean War type squad). Squads also varied in the mix of weapons used. Some squads had one or two M60 LMGs; others had only rifles and grenade launchers.[54]

Tactically, OCRSP used a wide variety of scenarios to gauge the effectiveness of the differing organizations. Live opponents tended to make the test a bit more realis-

tic. Although different squad organizations were based on different mission assumptions, they were required to perform the same missions in the OCRSP. When the eleven man fire team squad was adopted in 1956, it was expected to employ fire and maneuver. Thus in comparison, the smaller nonfire team based squads appeared less effective - at least until the fire team based squads suffered casualties.[85]

To evaluate the differences in tacical effectiveness, OCRSP testers focused primarily on successful mission accomplishment, but they also quantified four specific areas: command and control, firepower, attrition (particularly leader vulnerability), and maneuver. Groups of evaluators and observers noted particular failures in each of these areas for each tested organization. As a result, with the exception of the tested squad's firepower scores (which were rated by electronic devises), the evaluations were all subjective in nature. The conclusions and observations the testers made regarding the test squads can be neatly categorized in four areas: weapons, size, structure, and command and control.[86]

In terms of a squad's weapons mix, OCRSP observers noted that those squads with an organic LMG were superior in generating greater firepower than those without one. With an organic LMG, the squad was able to effectively suppress an enemy target much better than a squad using a mix

of automatic rifles (the M14 rifle on fully automatic) and rifles. Additionally, the report noted, not surprisingly, that with two organic machine guns, the squad's firepower increased in comparison to a squad with either no LMGs or only one LMG (note: only squads with fire teams had two LMGs).[57]

In terms of a squad's size and structure, OCRSP testers noted that a larger squad (particularly the eleven man fire team squad) could sustain more casualties, and continue its mission, better than could smaller squads (particularly the eight man squad). However, the report also noted that when the eleven man squad suffered casualties, the fire team structure fell apart. Specifically, the OCRSP testers concluded that to maintain a fire team structure, the squad had to have a minimum of ten men and three NCOs. Moreover, having fewer than ten men prevented the squad from conducting fire and maneuver. (This observation would prove prophetic of the fire team based squad's performance in the Vietnam War.)[58]

Furthermore, in regards to weapons mix, the OCRSP final report noted that when each fire team had an LMG (i.e. two LMGs per squad), its overall effectiveness rapidly decreased as soon as it lost riflemen. This came about primarily due to the need to replace the two LMGs' gunners and assistant gunners with riflemen. Eventually, as the squad sustained losses, it lost AVAILABLE riflemen and conse-

quently lost its close combat capability. This was attributed to the squad leader's preference to continue to man the squad's two LMGs in order to retain the squad's firepower capability.[59]

This strange phenomena was first quantified in ASIRS in 1956. Specifically, as the percentage of fire support weapons increased beyond thirty percent of the squad's size, the squad lost its close combat capability. Such was not the case, however, when the squad had only one LMG, as with those squads organized around a squad leader and an assistant.[60]

The OCRSP conclusion noted the best squad organization, without fire teams, was one organized around a single LMG, a squad leader, an assistant squad leader, and six or seven riflemen. The test's observers felt this squad's shortcomings, in comparison to the fire team squad, were that it lacked leaders (i.e. it lacked two team leaders) and firepower (i.e. it had only one LMG). However, the observers noted that this squad could be controlled and moved just as effectively as the fire team based squad. [61]

It should be noted, however, that one can discern that the observers had a pro-fire team bias.[62] As such, the following points should be kept in mind when considering the report's evaluation of the squad without fire teams. First, when one remembers the debilitating effects of an additional LMG on the squad's close combat capability

(mentioned earlier), this loss of firepower might be a reasonable tradeoff. Second, the shortage of one NCO, one of two team leaders, is only a concern if the squad is expected to execute fire and maneuver. If the squad was not to fire and maneuver (as was the case following WWII), the additional team leader would be unnecessary, or at best, a luxury.[83]

In their conclusions, the OCRSP testers recommended the Army adopt an eleven man fire team based squad with two LMGs, even though it recognized the fact that the fire team structure would probably not endure the effects of combat attrition for very long. As a caveat of the inherent weakness in the fire team's combat durability, the OCRSP stated, ' Too much emphasis, therefore, should not be given the fire team concept.' Given this comment, the fact that the testers recommended a fire team based squad can only be attributed to a strong belief in the potential a fire team structure gave to squad fire and maneuver. Despite the testers' recommendation, it is important to realize that the OCRSP results demonstrated that once a squad suffered casualties, the best organization was nearly identical to the nine man squad recommended in the 1946 Infantry Conference.[84]

In summary, one can see many similarities between the OCRSP report and the 1946 Infantry Conference concerning the infantry squad. Specifically, both recognized the dif-

ficulties of squad command and control. As a result, both stated the best squad organization (short subordinate fire teams) was one consisting of a squad leader, an assistant squad leader, a LMG, and five or six riflemen. To account for attrition, both reports concluded the squad needed to be larger than seven or eight men.[88]

The primary differences between the OCRSP and the Infantry Conference conclusions revolved around the issue of tactics. The Infantry Conference members felt that combat proved the infeasibility of squad fire and maneuver. The members of the OCRSP, reflecting the Army's doctrine in 1961, felt a squad could execute fire and maneuver. As such, the only squad organization to support this view was one with subordinate fire teams - in essence an organization with miniature squads. Despite this fact, the OCRSP strongly noted the tenuous life span of the team organization in test 'combat', an observaton that undermined its practical use. (It should be noted that until the Vietnam War, the Army had not officially used the fire team based squad in combat. When the Army did use the fire team organization in combat in Vietnam, combat results corroborated the OCRSP observation.) The basic question would seem to beg: Why did the Army in 1961 support a squad organization that was obviously perishable, probably unnecessary, and certainly unproven in combat? Despite these issues, the Army retained the fire team based squad and squad fire and

maneuver tactics. The US Army's leadership continued to disregard - perhaps unknowingly - the 1946 Infantry Conference's observations and conclusions regarding the infantry squad's organization and tactical employment.[66]

THE VIETNAM ERA, 1965-1975

Concurrent with the Vietnam War, specifically from 1966 to 1972, the Army' Combat Developments Experimentation Command conducted The Infantry Rifle Unit Study (IRUS). The testers sought to give the Army the means to make decisions concerning how the Army should organize, train, and equip its infantry squads and platoons through the late 1970s. It was the most thorough and comprehensive evaluation of infantry small arms, infantry company level organization, and direct fire infantry combat to date. The IRUS also permitted examination of every aspect of small unit infantry tactics and doctrine, by analyzing combat experience from Vietnam, Korea and WWII. Additionally, IRUS testers employed highly sensitive electronic devices to measure the effects of firepower during various tactical scenarios. Moreover, computer simulations analyzed the results of the various tactical scenarios conducted in the test. As such, IRUS observations are invaluable in evaluating the most critical aspects of the infantry squad's organization.[67]

The IRUS provided quantified observations about the effectiveness of machine guns, assault rifles, and dual pur-

pose grenade launchers in a variety of tactical situations.[68] Like earlier tests, IRUS testers analyzed the squad in terms of command and control, attrition, firepower, and maneuver. [69]

Perhaps most striking was the fact that IRUS testers sought to determine once and for all the requirements for a Basic Infantry Element - a BIE. The IRUS testers recognized that the terms 'fire team' and 'squad' already had specific associations and connotations about their respective organization, size, and employment requirements. As such, until some objectivity could be reached, the Army would never really be able to know what size, structure or weapons mix the infantry's basic building block should contain. IRUS's framers thought the term BIE would insure the test remained objective. Specifically, IRUS Phase I aimed to determine the parameters for the Army's future BIE.[70]

Due to the detail included in IRUS' conclusions, each subcategory will be addressed separately. The first concerns the BIE's size, and its command and control. The IRUS conclusion stated it was impossible to determine a 'best' size BIE using only the factor of control. As in the 1956 ASIRS, IRUS testers concluded there were too many variables that affected a BIE's command and control. It appeared from tests and combat that most men could easily control five others. However, a single man could also control up to ten men under certain conditions. It depended on the situation

- the terrain, mission, leader's experience etc.. The test's analysts noted that a breakpoint seemed to occur at six men: It was harder to control seven or more men than it was to control five or less. In the end, IRUS's conclusions reaffirmed command and control alone could not delimit the BIE's size. Like the 1946 Infantry Conference's conclusions, the IRUS conclusions recognized that one man had difficulty in controlling more than eight men.[71]

In their search for the BIE's optimum size, the IRUS testers investigated the actual rates of attrition for infantry squads in wars from WWII to Vietnam. The testers concluded that squad's were generally attrited by an average of around twenty to thirty percent. Additionally, IRUS noted that squads routinely operated at twenty percent of their authorized strength. This proved consistent even in such a modern war as Vietnam. Additionally, IRUS observers noted that once the BIE'S strength fell below five men it tended to become combat ineffective. Considering these factors, as well as the issue of size in regards to command and control, IRUS's test officer recommended the BIE contain six men. (Although an analysis of the data reveals the nine man BIE actually performed better than the six man BIE.) The testers recommended the six man BIE as a result of their subjective 'military' judgement since the test data did not overwhelmingly support their recommendation.[72]

Concerning attrition, IRUS noted one other important

point: the serious effects combat attrition had on the feasibility of the fire team based squad. Units in Vietnam, the first elements to use the fire team squad in combat, routinely dropped the fire team organization once the squad's strength fell below nine men. As a result of the lingering effects of operating at twenty percent less their authorized strength (i.e. eight of eleven men), most of the units analyzed in Vietnam rarely operated with fire teams. Units in combat stated that a squad of less than eight or nine men was too small to employ fire teams in squad fire and maneuver. This point was also noted in the 1961 OCRSP test.[73]

In terms of the BIE's weapons mix and firepower effectiveness, the IRUS provides some very interesting observations. Based on live fire tests, the best combination of weapons was a single light machine gun and a grenade launcher.[74] The LMG proved to be the most effective and efficient weapon to suppress both point and area targets in either attack or defense when compared to the results produced by either massed rifle fire or the grenade launcher.[75] Moreover, the IRUS noted the LMG's effectiveness actually improved as its range from the target increased. As a result, in the attack the LMG was the most effective weapon in covering the movement of another element. Additionally, the IRUS noted that the grenade launcher was most effective when employed as an area sup-

pression weapon in the attack, but of comparatively little value in the defense. Finally, IRUS quantified that the rifle proved to be an effective point suppression weapon at close ranges. Moreover, massed rifle fire could not provide as effective fire suppression as the combination of LMG and Grenade Launcher. The quantified results of the LMG's effectiveness supported the 1946 Infantry Conference's recommendation for a squad LMG.[76]

Of all of the observations concerning the weapons numbers and mix, the one that seems most unusual - some would say counter-intuitive - concerns the best number of LMGs per BIE. Based primarily on earlier studies and the effectiveness of the single LMG's fire in the BIE, the testers concluded that two LMGs per BIE would not be as effective in suppressing a target as only one LMG per BIE.[77]

This result can be attributed to several facts. First, two LMGs per BIE are much harder for the BIE leader to control because his attention is not devoted to a single weapon. This doubling of weapons systems makes the weapons collectively less effective. Second, two LMGs consume twice as much ammunition as one. When the guns are not effectively supervised, much of the ammunition is not effectively directed. Collectively, these two facts mean the gun's potential firepower is never realized. In short, having more LMGs per BIE does not axiomatically mean more effective firepower. Overall, the IRUS testers concluded that

a BIE should have one LMG and a grenade launcher (to complement the LMG). Together, these two weapons would provide the most effective firepower to allow the BIE's riflemen to assault an enemy's position or to keep an attacking enemy at bay. As can be seen, this point merely added to the 1946 Infantry Conference's conclusions regarding the infantry squad's basic firepower need.[78]

As a result of analyzing command and control, combat attrition, and weapons mix, the IRUS testers felt they could finally define the parameters for an effective BIE. First, the testers observed that a BIE was the smallest element commanded by a single man. Moreover, they noted that to be effective the BIE should have the following characteristics: First, the BIE should have no fewer than five men. Although to account for the lingering effects of attrition, the IRUS testers stipulated the BIE should actually contain no fewer than six men since attrition tended to make the BIE combat ineffective when it fell below five men. Second, to provide the BIE with the most effective firepower, the BIE should contain a single LMG and a grenade launcher.[79]

The final aspect of the IRUS concerns comments about the tactical use of the BIE. IRUS testers concluded that the BIE should not both fire and maneuver. Rather, the testers stated the BIE should either fire or maneuver as part of a larger unit. Its fire or maneuver should be con-

trolled by an element above the BIF, namely The Next Echelon Above The BIE, or NEATBIE.[80] As can be seen, the IRUS arrived at essentially the same conclusion about the BIE as the 1946 Infantry Conference had about the infantry squad.

HISTORICAL CONCLUSIONS

When one considers the observations made after WWII, Korea, and Vietnam, as well as the results of nearly two decades of peacetime testing, certain conclusions consistently appear in regards to the infantry's basic building block - the squad. First, a squad needs to have one organic LMG. The LMG gives the squad its most effective firepower. In the attack, it secures the infantry's assault. As such, all other squad weapons should add to or complement the LMG's fire. Two or more LMGs in the squad do not provide as effective fire as does one. This is because two or more LMGs exceed the typical squad leader's command and control ability. Furthermore, two LMGs tend to degrade the squad's close combat capability. This is especially true when they constitute over thirty percent of the squad's size. As the squad suffers casualties, the LMGs are consistently manned at the expense of the squad's remaining riflemen. [81]

Second, the squad should probably contain no more than nine or ten men, and an assistant squad leader. This number is not too large for a squad leader to control. It is also

large enough to remain effective even with the historically routine effects of combat attrition. The assistant squad leader can facilitate command and control and provide some depth allowing for leader attrition as well.

Third, the squad should not use fire and maneuver - it should either fire or maneuver. As proven routinely in WWII, Korea, and Vietnam, squad fire and maneuver is too difficult for the squad leader to control himself. The only successful examples of squad fire and maneuver employed a squad which contained two subordinate fire teams, which acted like miniature squads. This organization, since the leader controls subordinate elements rather than individuals, is actually a rifle section.

Since the American Army has shown an institutional bias for the fire team based squad in the years following the Korean War, a few historical points concerning its utility are in order. First, as was just mentioned, a 'squad' consisting of fire teams is arguably not really a squad at all, at least not in the sense that it is the smallest unit led by one man with no subordinate element leaders.[23] Two, although the US Army has sent squads into combat organized initially with fire teams, combat attrition forced the squad to reorganize without them. Specifically, once the squad's strength fell to eight men, the squad was too small to effectively employ fire teams, especially when one of the team leaders became a casualty. At a

minimum, to sustain the fire team structure, even if the fire team leaders did not become casualties, the authorized squad strength would have to be twelve or thirteen men. Only in this way could the routinely appearing effects of combat attrition be accounted for.[83]

Given all this, the 1946 Infantry Conference seems to have neatly captured the essential - and timeless - aspects of a minimally effective infantry squad. Combat in Korea, followed by decades of peace time testing, and combat in Vietnam, have corroborated and elaborated on the Conference's initial findings. At no time does any of the historical evidence refute the Conference's conclusions regarding the squad's command and control, the effects of combat attrition on the squad's size, the squad's need for a LMG, and the limitations of a squad's tactical employment. As a result, any current or future infantry squad should be judged in light of these characteristics.

III. THE INFANTRY'S CURRENT SQUAD ORGANIZATIONS

THE MECHANIZED SQUAD

Currently, the mechanized infantry squad consists of nine men and the M-2 Infantry Fighting Vehicle (IFV). Three men comprise the vehicle crew with six men in the dismount 'rifle' team.[84] The squad's nine man size resulted the difficulties of the IFVs development than from any desire to make the post-Vietnam eleven man squad smaller. The Army

did not simply choose to readopt the Korea War nine man squad. Its nine man size squad is a by-product of the vehicle's evolutionary development, which will not be recounted here as it exceeds the scope of this study. Suffice to say, design problems produced a vehicle that could ony carry a six man dismount element rather than the hoped for eleven man squad. The reduced six man dismount element absorbed certain key weapons of the previous eleven man, fire team based squad.[88] Apparently, the Army's designers accepted a tactical procedure for dealing with combat losses resulting from peacetime, force design 'attrition'. Specifically, in the old eleven man squad, as the squad suffered casualties, the squad leader kept the squad's 'key' weapons manned (i.e. automatic rifles and grenade launchers).[89] In similar fashion, force designers reduced the number of riflemen in the mechanized team as the vehicle lost space. As a result, the dismount team contains two automatic riflemen, now armed with the M249 Squad Automatic Weapon (SAW), two men armed with the M203 grenade launcher, and two men armed with the M16 assault rifle. In short, the mechanized infantry squad's rifle team - the squad's infantry element - begins its operational life as though it were merely the remains of an eleven man, two fireteam squad. In doing this, the force designers ignored the historical lessons concerning the squad's essential organization. More importantly, they have made the squad less ef-

fective.

This process of reduced dismount strength and retention of the former eleven man squad's key weapons has certainly given the dismount team a great deal of firepower potential. It has, however, also significantly degraded the squad's close combat capability. As demonstrated in tests since the end of the Korean War, specifically: ASIRS (1956), OCRSP (1961), and IRUS (the late 1960s, early 1970s), a squad's effectiveness is reduced once a certain percentage of its strength is filled with fire support systems such as LMGs and grenade launchers. In short, more fire support systems in the squad does not inherently mean better fire support. Granted this appears counter-intuitive (that more weapons would not provide more firepower), but it has yet to be refuted.

The maintenance of the older eleven man squad's weapons has also effected the squad's close combat tasks. Close combat tasks (clearing trench lines, buildings, and bunkers), as well as individual soldier tasks (such as manning observation and listening posts, building obstacles etc.), need riflemen armed with a light weight assault rifle, not grenade launchers and LMGs (like the M249, Squad Automatic Weapon - SAW). As light as the SAW may be, it is still too heavy to allow the gunner to perform the tasks just mentioned.[67] Given the paucity of riflemen in the mechanized infantry squads, any change in weapons or organization that

could increase the infantry company's close combat strength without decreasing its effectiveness would appear to be a step in the right direction.

LIGHT INFANTRY SQUAD

As with the mechanized infantry squad, the light infantry squad contains nine men. This resulted from the changes in the Army of Excellence.** The decision to adopt the nine man light infantry squad was not by design, but by the limitations of current Army end strength. However, like the mechanized squad, it too reflects the vestiges of the Army's old eleven man squad. This is most easily seen in the squad's two fire teams. Each fire team has one team leader, and three subordinates. One is armed with a SAW, one with a grenade launcher (presumably the team leader), and two with rifles.**

The light infantry's squad's fire team organization is intellectually unsupportable and undermines its overall tactical effectiveness. A review of the historical evidence proves this point. First seen in the OCRSP (1961), a squad's strength must remain above eight men after attrition to effectively employ a squad with a fire team structure This observation was corroborated in combat by units in Vietnam. Obviously, the light infantry's nine man squad can be expected to fall short of this number. The unsuitability of the nine man squad to operate with fire teams is

even more pronounced when one considers the lingering effects of combat attrition.[30] The historical record indicates that the nine man squad would operate for an extended time at six or seven men in combat. Therefore, it would be an ineffective organization if it tried to employ fire teams.[31]

The fire team structure has also encouraged the infantry squad to use squad fire and maneuver tactics. As seen in combat since WWII, squads rarely, if ever, use fire and maneuver. Rather, squads tend to either act as a base of fire element or a maneuver element for a larger element (i.e. a platoon). Even if one accepts the premise that squads can execute fire and maneuver, tests (the place where it has been attempted under controlled conditions) indicate that the concept needs full strength fire teams to operate effectively. Teaching squads to fire and maneuver in peacetime makes little sense when one recognizes that combat conditions (primarily attrition, but also command and control) will prevent its use in combat.

Finally, unlike the mechanized squad, which can place the squad's second LMG in the vehicle, the light infantry must carry it along. As a result, the light infantry squad's second LMG does not initially appear to make the squad less effective. Once the squad is in combat, however, with its squad strength lingering at seven or eight men, the presence of two LMGs will degrade the squad's close

combat strength and make the squad more quickly combat ineffective - particularly for close combat tasks.

IV. CONCLUSION AND RECOMMENDATIONS

Based on the lessons of three wars and decades of testing, the current infantry squad is poorly organized. It is essentially a whittled down version of the Army's old eleven man, two fire team squad. The squad's small size mitigates against its effectively using two SAWs and two grenade launchers, particularly in the mechanized rifle team. Two SAWs and two grenade launchers not only reduce the squad's fire suppression effectiveness, but they also dissipate the squad's close combat capability, the riflemen. A nine man organization cannot support the light infantry's fire team structure or squad fire and maneuver. In sum, the Army needs to remember and apply its own lessons learned and relearned concerning the infantry squad's organization and tactics.

The following recommendations are presented as a way to improve the infantry squad's effectiveness. The recommendations address both the mechanized and light infantry squads. The recommendations do not propose a change to the squad's existing strength. Instead the recommendations propose a change in the squad's current organization.

The easiest way to make the mechanized squad more effective is rather simple. The rifle team should be reduced

in equipment by one SAW and one grenade launcher. The net benefit of dropping these weapons in each fire team would be twofold. First, the rifle team's suppressive fire effectiveness would be improved. Second, the mechanized infantry company's close combat strength would be increased immediately. The number of riflemen in each squad would increase from one to three. Collectively then, the company would increase from its current nine to twenty seven riflemen. The increase in riflemen would give the infantry commander the human resources to accomplish the variety of tasks only dismounted infantry can preform.

The solution to the light infantry's close combat strength is almost identical to that presented for the mechanized squad. First, eliminate one of the squad's two SAWs and grenade launchers. As with the mechanized infantry, this would increase the squad's close combat potential. Second, eliminate the fire team structure. Organize the squad around a squad leader and assistant squad leader instead. Under this structure, the assistant squad leader could still lead an ad hoc team - if required by the tactical situation. Eliminating the fire team would also simplify the light infantry squad's tactics. The squad would either fire or maneuver in relation to its SAW. This would lessen the squad leader's tactical duties and be more in line with what has actually taken place at the squad level in WWII, Korea, and Vietnam.

These recommendations are not radical nor are they a step backward. The experiences of three wars and several decades of testing corroborate these proposals. The proposals can be better appreciated and placed in perspective if one keeps in mind that the loss of the now traditional fire team is not really a loss at all.

END NOTES

1. Richard A. Scholtes (ret.), "Where Have All the Infantrymen Gone," Armed Forces Journal, October 1986, 124.

2. This remark was made by LTC(P) Lawson Magruder III, Chief of Tactics, USAIS, during a tactics instructors meeting in October 1987.

3. The author was a tactics instructor at the USAIS from 1984 to 1988. During this time he had the opportunity to attend numerous Infantry Commanders Conferences. Invariably, the squad's size -"foxhole" strength - was the dominate concern.

4. As only one example, the British lost over 70,000 casualties on the first day of the Somme in 1917. S.L.A. Marshall, World War One, (New York: American Heritage, 1985), 258-259.

5. For a detailed account of how the Germans made the change in organization, tactics and doctrine see, Timothy T. Lupfer, The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War, (Ft. Leavenworth, Ks.: GPO, 1981). To see the impact these changes made on infantry tactics and organization overall - such as the fact that one LMG had the firepower of twenty riflemen - see, John A. English, On Infantry, (New York: Praeger, 1984), 18-22, 70-71.

6. Ibid.

7. "The Rifle Platoon in Foreign Armies (An Infantry School Study)," Infantry School Quarterly, January 1938, 181-195.

8. English, On Infantry, 18-22, 70-71.

9. The story of the US Army's failure in this area deserves a study of its own. The best summary can be seen in, Early McFarland, "Light Machine Guns: The Need for a New Automatic Infantry Weapon," Army Ordnance, Sep-Oct, 1940, 103-109; TE Cosgrove, "The New Machine Gun," Ordnance, May-June 1957, 1095.

10. This was done with Change 1, 30 June 1944, to T/O&E 7-15 the Infantry Rifle Battalion.

11. The Infantry Conference, Tactics and Techniques Committee 'A', (Ft. Benning Ga.: The United States Army Infantry School, 1946), T-1, T-2; The Infantry Conference,

Tactics and Techniques of Committee 'B ', (Ft. Benning Ga.: The United States Army Infantry School, 1946), T-17, T-18, T-19, T-20, T-30.

12. Ibid.

13. Ibid.

14. Ibid.

15. The Infantry Conference, Tactics and Techniques Committee 'A', T-1, T-2; The Infantry Conference, Tactics and Techniques of Committee 'B ', T-17, T-18, T-19, T-20, T-30. Although somewhat incidental to this study, the Conference also noted deficiencies in the WWII infantry platoon's organization. The WWII procedure of attaching an assault element from the company's weapons platoon to the rifle platoon was inadequate. Combat had revealed that the infantry platoon needed organic LMGs and rocket launchers. Based on the testimony of numerous combat veterans, as well as on its own internal discussions, the Conference recommended the infantry platoon be given an organic support element, similar to that of the rifle company and battalion. As a result, the infantry platoon gained a weapons squad consisting of a LMG and a rocket launcher. The new weapons squad's primary mission was to support the rifle squads' assault. The weapons squad was a duplicate of the WWII Assault Squad of the Weapons Platoon. Additionally, in WWII the scout section was a special skill. Not all infantrymen were trained in scouting. The Conference members felt that in the future all infantrymen should be taught how to scout, fire both the BAR and the Light Machine Gun.

16. Robert Dupree and Horace E. Homesley, Jr., History of United States Army Squads and Platoons, 1935-1967,(Ft. Benning, Ga. : Combat Developments Command, 1967), 22-25.

17. TE Cosgrove, 'The New Machine Gun,' Ordnance, May-June 1957, 1095.

18. The Infantry Conference, Tactics and Techniques Committee 'A', T-1, T-2; The Infantry Conference, Tactics and Techniques of Committee 'B ', T-17, T-18, T-19, T-20, T-30. The M1919A6 was the Army's LMG. It was a heavy weapon and therefore was kept in the platoon's weapons squad.

19. The Infantry Conference, Tactics and Techniques Committee 'A', T-1, T-2; The Infantry Conference, Tactics and Techniques of Committee 'B ', T-17, T-18, T-19, T-20, T-30.

20. J. Lawton Collins, " Stress the Fundamental," Combat Forces Journal, 1952, 11-18; Frank T. Mildren, "What Has Korea Taught Us?," Infantry School Quarterly, October 1953, 7-13; Lessons From Korea, The Infantry School, 1954; Dillon Snell," The New Squad Formations," Infantry Journal, 1953, 72-74; Dean Havron, et. al., A Research Study of the Infantry Rifle Squad T E, (Ft. Monroe, Va : Headquarters Continental Army Command, 1956). 1-10.

21. SLA Marshall, Commentary on Infantry Operations and Weapons Usage In Korea: Winter 1950-1951, (Chevy Chase, Maryland: The John Hopkins University, 1951), 53-54, 72-76.

22. The Infantry Conference, Tactics and Techniques Committee 'A', T-1, T-2; The Infantry Conference, Tactics and Techniques of Committee 'B ', T-17, T-18, T-19, T-20, T-30.

23. Robert A. Doughty, The Evolution of US Army Tactical Doctrine, 1946-76, (Ft. Leavenworth, Ks.: Government Printing Office, 1981), 12-19.

24. Marshall, Commentary on Infantry Operations and Weapons Usage In Korea: Winter 1950-1951, 53-54, 72-76.

25. The authorization for two BARs did not appear until 1953, after Marshall submitted his report, Marshall Commentary on Infantry Operations and Weapons Usage In Korea: Winter 1950-1951, 53-54, 72-76; Robert Dupree and Horace E. Homesley, Jr., History of United States Army Squads and Platoons, 1935-1967,(Ft. Benning, Ga.: Combat Developments Command, 1967), 20-22.

26. Marshall, Commentary on Infantry Operations and Weapons Usage In Korea: Winter 1950-1951; 53-54, 72-76.

27. Marshall's belief in the importance of massed rifle fire can be seen in his WWII work, Men Against Fire: The Problem of Battlefield Command in Future War, (Gloucester, Ma: Peter Smith, 1978); recently Marshall's basic arguments in Men Against Fire: The Problem of Battlefield Command in Future War have been reevaluated by Dr. Roger Spiller, the deputy director of the US Army's Combat Studies Institute, and shown to be rather speculative at best, see Roger J. Spiller, SLA Marshall and the Ratio of Fire, RUSI Journal, Winter 1988, 63-71.

28. Marshall, Commentary on Infantry Operations and Weapons Usage In Korea: Winter 1950-1951, 53-54, 72-76.

29. Ibid.

30. Robert Dupree and Horace E. Homesley, Jr., History of United States Army Squads and Platoons, 1935-1967, (Ft. Benning, Ga. : Combat Developments Command 1967), 25.

31. Fry's squad battle drill is noticeably absent within the platoon's battle drill. Apparently, battle drill was used as a means to train infantrymen more than a tactical technique, see JC Fry, "Battle Drill," Combat Forces Journal, April, 18-22; May, 37-39.

32. Fry, "Battle Drill."

33. The enthusiasm for battle drill can be seen most clearly in the Infantry Instructors's Conference in 1956, where its use is described primarily to meet unexpected resistance during a deliberate attack or patrol; Infantry Instructor's Conference Report, (Ft. Benning, Ga. : Government Printing Office, 1956), 70-78.

34. Fry, "Battle Drill."

35. James C. Fry, Assault Battle Drill, (Harrisburg, Pa.: The Military Service Publishing Co., 1935).

36. Dean Havron, et. al., A Research Study of the Infantry Rifle Squad TOE (ASIRS), (Ft. Monroe, Va : Headquarters Continental Army Command, 1956).

37. DuPree, 62.

38. DuPree, 62; ASIRS, 4.

39. ASIRS, 5-10.

40. Ibid.

41. Ibid.

42. The test was scientific in the sense that it used control teams, professional testers, and was not conducted by a tactical unit.

43. ASIRS, 1.

44. ASIRS, 1, 2, 9, 64.

45. ASIRS, 1-15.

46. ASIRS, 64-67.

47. Ibid.

48. ASIRS, 50-51.

49. ASIRS, 70-74.

50. Ibid.

51. Infantry Instructor's Conference Report, 1956, 77; John K. Mahon and Romana Danysh, Infantry, Part I, Army Lineage Series, (Washington, D.C.: Government Printing Office, 1972), 99-101.

52. US Army Combat Developments Command, Optimum Composition of the Rifle Squad and Platoon (OCRSP), (Ft. Ord, Ca. : Combat Developments Command, 1961).

53. OCRSP,1-13.

54. OCRSP, 15-23.

55. The OCRSP testers noted that none of the personnel involved in the test knew how to lead a squad without subordinate fire teams, and that this affected the nonfire team based squads, OCRSP, 18-19.

56. OCRSP, 13, 20-23, 66-68.

57. OCRSP, 16, 20-23.

58. OCRSP, 16-17.

59. Ibid.

60. OCRSP, 18; ASIRS, 64-67.

61. Ibid.

62. The OCRSP testers noted that none of the personnel involved in the test knew how to lead a squad without subordinate fire teams; this ignorance affected the nonfire team based squads tactical effectiveness, OCRSP, 18-19.

63. The OCRSP test assumed that the infantry squad had to execute fire and maneuver, this was an unfair comparison with the nine man squad, which was not designed to execute this mission. Moreover, the preference for a fire team based squad tended to skew the evaluators expectations. As a result, the nine man squad always seemed

tactically inferior.

64. OCRSP, 16-17, 19.

65. OCRSP, 2-3.

66. OCRSP, 19.

67. US Army Combat Developments Command, Infantry Rifle Unit Study, IRUS-75, phase 1, part 2, Annexes C-D, part 3, Annexes E-I; phase 2, vol. I,IV,V; Executive Summary (Ft. Benning, Ga. : Combat Developments Command, 1969).

68. IRUS-75, the test used the Stoner 63 LMG as the prototype LMG of the 1970s. It closely resembles the Army's current LMG the M249 Squad Automatic Weapon.

69. IRUS-75, Executive Summary, phase 2, p. 1-4.

70. IRUS-75, phase 1, part 2, C1 to C15.

71. Ibid, E17.

72. Ibid, E-V-18 to E-V-39; as with the 1961 OCRSP test, the IRUS testers showed a strong bias toward a fire team organized squad; they were unable to provide any justification for the concept other than by 'subjective' judgement..

73. IRUS, phase 1, part 3, E-III-31; The IRUS surveyed many Vietnam veterans and used the Infantry School's own studies to identify the effects attrition had on the fire team in combat; in regards to the fire teams use see TA Williams and Horace Homseley Jr., Small Unit Combat Experience in Vietnam, 1966-1967, (Ft. Benning, Ga. : US Army Combat Developments Command, 1967).

74. IRUS, phase 1, part 3, E-III-13; the IRUS testers polled Vietnam veterans, both NCOs and officers, about the use of a squad LMG. Invariably, the majority of veterans used the M-60 LMG (a platoon support weapon at the time) attached to a rifle squad; IRUS-75.

75. IRUS-75, phase 1, part 3, E-III-27 to 30.

76. Ibid, 7 to 14.

77. Ibid, 12 to 18.

78. IRUS-75, phase 1, part 2, F-15.

79. Ibid.

80. Ibid, D-6, D-I-1.

81. Until such time as the M203 Grenade Launcher and its ammunition weighs no more than the M16, it is still too heavy to allow an infantryman to perform close combat or labor intensive tasks.

82. IRUS-75, phase 1, part 2, C1 to C15.The IRUS called this BIE the fire team rather than a squad. Why? The IRUS felt that US Army doctrine and tactics was better served by having another element (the NEATBIE) subordinate to the platoon that could execute fire and maneuver. However, the IRUS did not justify this point of view. The test officer based this decision on what the test termed 'military judgement' - or what others might called personnel preference.

83. IRUS-75, phase 1, part2, Annex E-V, 18-39.

84. Department of the Army, FM 7-7J The Mechanized Infantry Squad and Platoon (Bradley), (Washington, D.C.: Government Printing Office, 1986), 6.

85. Robert J. O'Neil, 'Eight Years Later,' Infantry, Jan-Feb 1980, 22-26; O'Neil served as the IRUS test officer.

86. Department of the Army, FM 7-7 The Mechanized Infantry Squad and Platoon, (Washington, D.C. : Government Printing Office, 1978), 22.

88. 'The Army of Excellence' created more Army divisions, but did not increase the Army's overall endstrength. As a result, nearly every element had to lose some personnel. The infantry battalions did this, in part, by reducing the squad from eleven men to nine.

89. Department of the Army, FM 7-70 Light Infantry Platoon/Squad, (Washington, D.C.: Government Printing Office, 1986), 6

90. Infantry personnel losses seem to have remained consistent from WWII through Vietnam, namely at twenty to thirty percent less the authorized strength, or seventy to

eighty percent strength. Perhaps attrition rates will improve in the next war, but there is no proof of this event at the current time.

91. IRUS-75, phase 1, part 2, Annex E-V, 18-39.

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